

REMARKS

I. Introduction

Claims 1-7 are pending and stand rejected. Previously, claims 8-16 were cancelled. With this response, claim 1 is amended and claims 3-4 are cancelled. Consequently, claims 1, 2, and 5-7 are at issue. Claim 1 is the only independent claim.

II. The rejections

Claims 1-7 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application No. 2003/0105918 to Plourde in view of USPN 5,671,420 to Bell. These rejections are traversed for the reasons described below.

III. The prior art

Plourde

Plourde describes a file allocation system for a hard disk drive. A file allocation table (FAT) 500 is used to keep track of used and unused portions of the disk. The disk 300 is divided into tracks 303 of two or more sectors 301. Two or more segments on a particular track make up a cluster. See Plourde, FIG. 3B (reproduced below for the convenience of the Examiner) and Plourde, paragraph 65.

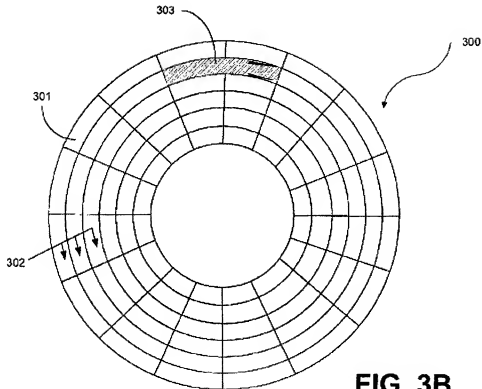


FIG. 3B

As the disk drive writing head moves across the disk, clusters that are active are constantly changed. That is, some are allocated, while others are deallocated. The FAT 500 has a list of all clusters 560 and a "LinkedFiles" field with an entry corresponding to each of these clusters. If the "LinkedFiles" field is 0, this indicates the corresponding cluster is free. If the "LinkedFiles" field is 1, then the cluster is allocated to a file. Another and separate list of allocated clusters is contained as the Cluster List 530. See Plourde, paragraphs 91-92.

Further, there is no linkage structure maintained in Plourde. More specifically and although a list of sectors used by a particular file is maintained, there is no teaching of how these sectors are linked together. For example, taking his FIG. 5F, there is no indication of how sectors 12, 13, 14, 5, and 7 are linked (e.g., whether sector 12 is linked to sector 13, or sector 14, or some other sector and so forth).

Bell

Bell teaches a method of distributing files onto a computer-usable storage medium. Various displays are presented to a user for building directories and sub-directories. There is no discussion in Bell of free memory lists.

IV. The claims are allowable

With all due respect and as will be discussed in greater detail below, Plourde and Bell alone or in combination do not teach or suggest at least the following:

- a separate free memory list data structure that exclusively includes deallocated portions of memory;
- a separate free memory list that varies in size over time;
- appending deallocated portions of memory to the free memory list; and
- amending the file to affirmatively link the non-deallocated portions together.

The approaches claimed by the applicant are not simple design choices. By maintaining a variable-sized free memory list that exclusively includes only deallocated portions of memory, memory space is saved and used much more efficiently as compared to previous systems such as the Plourde system.

More specifically, Plourde does not teach or suggest defining in memory a free memory list that exclusively defines unused memory portions as recited in claim 1. To the contrary and at most, Plourde includes a list of allocated sectors and a table of all sectors, but includes no list that includes only deallocated sectors. As for Bell, free memory lists are not even discussed.

Plourde also does not teach a free memory list that changes size over time. Assuming the cluster list 560 is a free memory list, this list is a fixed table that remains fixed in size over time. As for Bell and as mentioned, free memory lists are not discussed.

Plourde also does not teach or suggest deleting the first portion of the file and appending the deleted portion to the free memory list. To the contrary and assuming the cluster list 560 is the free memory list, nothing is appended to it; indeed, the size of the "list" 560 is fixed and only its values (of 1 or 0) are changed. As for Bell and as mentioned, free memory lists are not discussed.

Plourde further does not teach or suggest amending the file to link the second portion with the third portion also as recited in claim 1. To the contrary, although Plourde includes a list of sectors for a file, his system does not affirmatively link these sectors together and there is absolutely no teaching of creating a linkage after a deallocation operation is performed. As for Bell and as mentioned, free memory lists are not discussed.

Since at least one element of claim 1 is not taught or suggested by Plourde, it is submitted that claim 1 is not anticipated Plourde. Claims 3 and 4 are cancelled. The remaining claims depend directly or indirectly upon claim 1. Since claim 1 is not anticipated by Plourde, it is submitted that the remaining dependent claims are also not anticipated by Plourde.

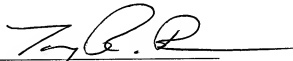
IV. Conclusion

The Commissioner is hereby authorized to charge any additional fees which may be required in this application to Deposit Account No. 06-1135.

Respectfully submitted,

FITCH, EVEN, TABIN & FLANNERY

By



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